California Department of Water Resources

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FISH PASSAGE IMPROVEMENT

February 2003

An Element of CALFED's
Ecosystem Restoration Program

Department of
Water Resources

Bulletin 250-2002

Fish Passage Improvement 2003

February 2003

Gray Davis
Governor
State of California

Mary D. Nichols
Secretary for Resources
The Resouces Agency

Thomas M. Hannigan
Director
Department of Water Resources

Foreword

This inaugural publication of Bulletin 250, *Fish Passage Improvement*, contributes significantly to our understanding of how California can help revitalize our salmon and steelhead fisheries. We at the Department of Fish and Game and Department of Water Resources welcome such a detailed contribution to the literature of protecting the state's anadromous fish. There are many reasons for the decline of migrating salmon and steelhead in our rivers and streams—the loss of riparian vegetation, poor water quality, unscreened diversions, and barriers to fish passage. Bulletin 250 identifies man-made structures in the watersheds of the San Francisco Bay Area and the Sacramento and San Joaquin rivers, and details how selected structures impede fish migration and what is being done about them.

This bulletin represents an important contribution to the protection and recovery of listed anadromous salmonid species in California. It is an example of a capacity-building process that enhances the ability of both agencies to fulfill their mandates and collaborate on future efforts to improve fish passage in California. .

Through coordinating resources and authorities, a comprehensive California fish passage program is vital towards identifying, prioritizing, and treating migration barriers so that unimpeded migration of California's salmonid populations is achieved. In addition, this information contributes to strategies for ensuring future water supply reliability.

This publication, with its valuable inventories of potential fish-passage barriers, will help fulfill California State anadromous fish restoration objectives; those of CALFED's Ecosystem Restoration Plan; and the U.S. Fish and Wildlife Service's Anadromous Fish Restoration programs.

Thomas M. Hannigan, Director
Department of Water Resources

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Executive Summary

Since the 1800s, salmon and steelhead habitat in California has declined 95 percent, from 6,000 miles of rivers and streams to 300 miles; and with this decline in habitat, there has been a decrease in salmon and steelhead fish populations. Recognizing the importance of saving and restoring the populations of salmon and steelhead, many government and private organizations have responded, working to reopen streams and rivers to these anadromous fish.

Initiated by CALFED in 1999, the Integrated Storage Investigations Program was launched to study increased water storage capacity in both surface reservoirs and underground aquifers, intending to meet the needs of California's growing population and to provide flexibility to improve water quality and restore ecosystems. One element of this integrated suite of investigations is the Fish Passage Improvement Program.

Now a part of the CALFED Ecosystem Restoration Program, the Fish Passage Improvement Program is a partnership-building effort to improve and enhance fish passage in Central Valley and Bay Area rivers and streams, working with local, state, and federal agencies and stakeholders to plan and implement projects to remove barriers that impede migration and spawning of anadromous fish.

This inaugural issue of Bulletin 250, for the first time, presents aggregated information on fish passage impediments and activities to address the decline in riverine habitat within the Fish Passage Improvement Program geographic scope (Figure 1).

Figure 1. Fish Passage Improvement Program Geographic Scope

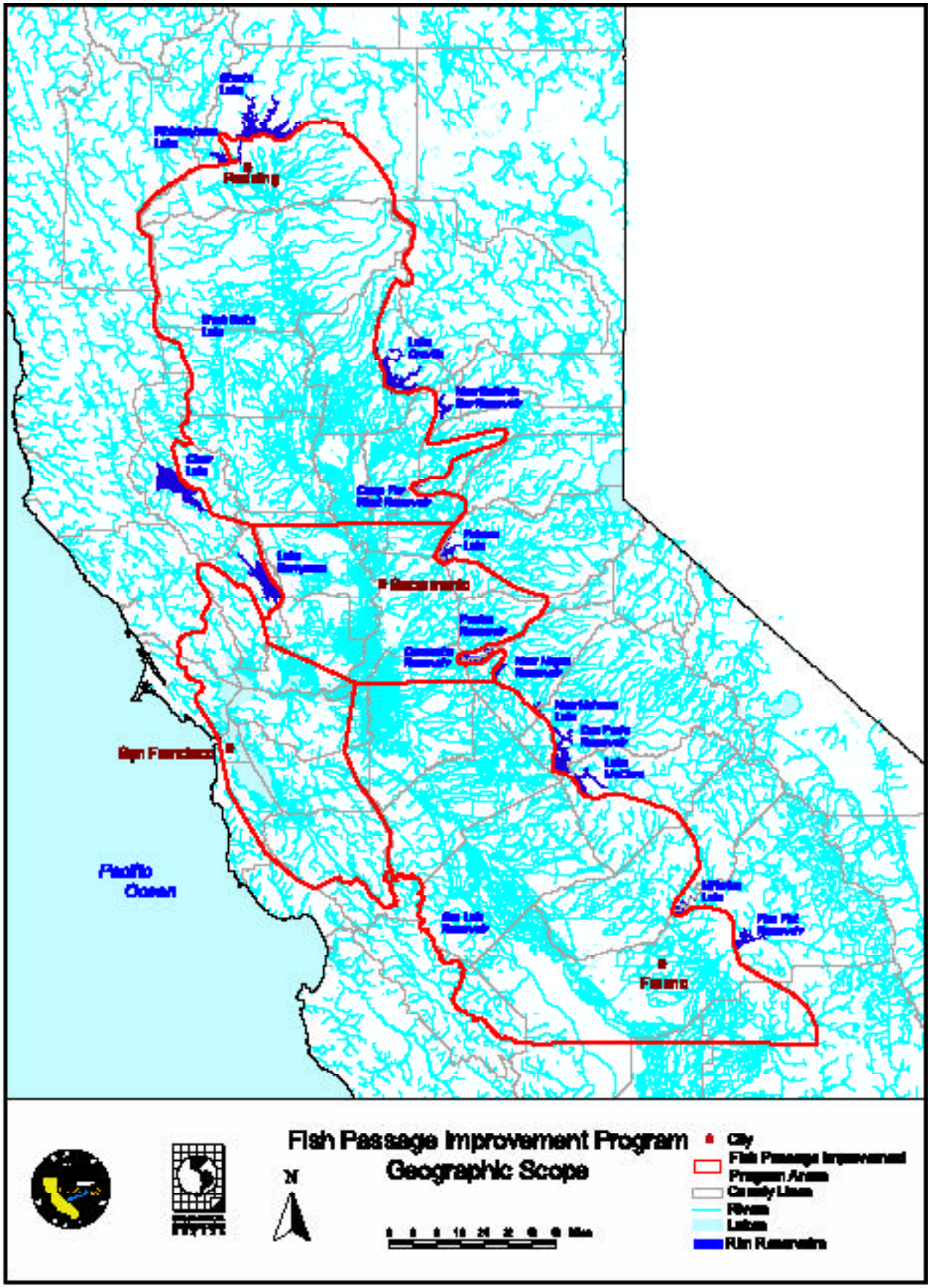
Chapter 1 describes the problem, outlining the historical and current distribution of salmon and steelhead listed as threatened or endangered and their critical habitat in the Central Valley and Bay Area. It also shows the distribution of evolutionarily significant units of salmon and steelhead in the Central Valley and Bay Area, the distribution of critical habitat for endangered or threatened Chinook salmon and steelhead, and the distribution of essential fish habitat for four Chinook salmon runs.

Chapter 2 gives a historical perspective of fish passage improvement in California, describing the Fish Passage Improvement Program and its efforts to solve the problem outlined in Chapter 1.

Chapter 3 describes stream fish populations and habitat in Central Valley and Bay Area streams and rivers where the Fish Passage Improvement Program supports projects.

Chapter 4 describes projects supported by the Fish Passage Improvement Program on streams listed in Chapter 3.

Figure 1


Fish Passage Improvement Program
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County Lines
Rivers
Lakes
Rim Reservoirs
Pacific Ocean
San Francisco
Sacramento
Fresno